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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,567	11/21/2003	Paul R. Hart	194-27710-USCP	3547

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EXAMINER

DRODGE, JOSEPH W

ART UNIT PAPER NUMBER

1723

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/719,567

Applicant(s)

HART, PAUL R.

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

The disclosure is objected to because of the following informalities: Page 1 of the Specification requires amending to recite that the application is a "continuation-in-part of U.S. Patent Application 10/008,173 **and** has matured into Patent 6,695,968, issued 2/24/2004.

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellos et al patent 5,853,592 in view of Augustin et al patent 5,045,212.

Bellos et al disclose a composition, for separating water-soluble organics and water (Abstract, et. Seq.) essentially consisting of a hydrophilic, hydroxymonocarboxylic acid, such as hydroxyacetic acid or AHA (column 6, lines 25-32), [inherently having the relatively high pKa of instant claims 2, 11 and 16 (see also column 6, lines 12-24, etc. of

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the reference) and chemical formulation of instant claims 3,12 and 17], such organic acid optionally constituting essentially all or 99% of the active ingredient (column 6, lines 52-61). Bellos also disclose that the composition may comprise a "minor amount" of other ingredient such as a demulsifier (column 6, line 66-column 7, line 3).

For claims 8 through 18, column 6, line 66-column 7, line 3 and column 7, lines 9-12, indicate a relatively high ratio of AHA to minor ingredient of demulsifier.

For claims 15-18, the composition may comprise also water-like fluid phase or water and other solubilized organics, such as organic wetting agents, that are soluble in the added water (column 7, lines 3-12). If necessary, the composition is added to a fluid mixture being separated, including water and solubilized organics (column 8, lines 4-34), resulting in a mixture encompassing the water and organics being separated as well as the active organic acid ingredient and demulsifier.

The instant claims all differ in requiring the demulsifier to constitute an anionic polymer. However, Augustin et al teach to separate oil/water emulsions by anionic demulsifiers (column 2, lines 14-21). ***Specifically, Augustin teaches to separate oil/water emulsions, for example in crude oil production, column 1, lines 7-10 (as in the Abstract of Bellos), by sequentially adding an organic cationic demulsifier and then an inorganic demulsifier to the crude oil/water emulsion, followed by, adding an inorganic demulsifier and then an organic polymeric demulsifier to the resulting aqueous phase to further clarify such aqueous phase (column 2, lines 14-21 and 45-68). Thus the various demulsifiers of Augustin are not applied together, instead they are applied sequentially.***

It would have been obvious to one of ordinary skill in the art to have employed the anionic demulsifiers taught by Augustin et al as the demulsifier of Bellos et al, since these demulsifiers are shown to result in separated water phase, having an environmentally permissible very low degree of contamination with oily contaminants, and lower than the other well known types of demulsifiers (see column 1, lines 21-50 of Augustin for such explicit motivation). ***It would also have been obvious to have added, specifically, an anionic, polymeric demulsifier, to the composition applied by Bellos, since Augustin teaches that this type demulsifier results in an aqueous phase resulting from crude oil production being sufficiently clarified to permit its discharge into an outfall ditch, thus meeting environmental standards (column 1, lines 28-36 and column 2, lines 58-62 of Augustin).***

Augustin teaches the anionic polymer being copolymers of acrylic or methacrylic acid and acrylamides and esters thereof for claims 4,7,13 and 18 at column 2, lines 14-21, and these having a high degree of polymerization as in claims 5,6 and 14 (see column 2, lines 17-19 concerning the polymers preferably having a high molecular weight exceeding 0.8 million, thus necessarily having a degree of polymerization well above the claimed 30 figure.

Applicant's arguments filed on May 10, 2006 have been fully considered but they are not persuasive. It is argued that there is no suggestion in Augustin to choose an anionic polymeric demulsifier from amongst a wide array of demulsifiers. However, the forementioned text sections of Augustin teach that such type of demulsifier uniquely

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results in the aqueous phase resulting from an original crude oil/water emulsified mixture having a low enough level of residual oil to be discharged to the environment.

It is also argued that Augustin requires that anionic co-polymers must be used **together** with cationic demulsifiers and other types of demulsifiers. It is submitted that Augustin instead adds different types of demulsifiers including cationic demulsifiers in sequential stages and at the end of the process, adds an anionic polymeric demulsifier to the resulting partially purified aqueous phase resulting from a crude oil water/oil emulsion mixture.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

June 17, 2006

  
**JOSEPH DRODGE**  
**PRIMARY EXAMINER**